

**NORTHEAST OHIO REGIONAL SEWER DISTRICT
2016 GREEN INFRASTRUCTURE GRANT FOR THE
COMBINED SEWER AREA**

APPLICATION

Applicant Information

Organization: Kamm's Corners Development Corporation

Name and Title of Executive Officer: Steve Lorenz, Executive Director

Address: 17407 Lorain Avenue, Cleveland, OH 44111

Phone: (216) 252-6559

Email: steve.lorenz@kammscorners.com

Name and Title of Project Manager: Ben Campbell,
Director of Commercial & Industrial Development

Address: Same as above

Phone: Same as above

Email: ben.campbell@kammscorners.com

Project Information

Title of Project: Kamm's Corners Public Parking Lot Retrofit

Address of Project: 16906 Albers Avenue, Cleveland, Ohio 44111

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Parcel Numbers: 02525031 (Owned by City of Cleveland) see attached support letter

Watershed of Project: Westerly (Rocky River Main Stem)

Green Infrastructure SCM's Proposed: bioretention

Project Start Date: July 1, 2016

Project End Date: December 31, 2016

Total Project Cost: \$249,583.00

Grant Request: \$249,583.00

Green Infrastructure SCM's Data

Square Footage of each SCM(s): 2,700 SF bioretention

Total Drainage Acres Treated by each SCM(s): 1.46 acres to bioretention (see attached calculations)

Pre-Construction Impervious Acres: 58,728 sqft or 1.35 acres impervious area

Post-Construction Impervious Acres: 54,729 sqft or 1.26 acres

Change in Impervious Acres: - 0.09 acres less (-3,999 sqft)

Impervious Acres Draining to each SCM(s): 1.26 acres to bioretention

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*Pre-Construction –

Average Annual Runoff (in) of Total Drainage Area Treated: 27.74 inches

*Post-Construction –

Average Annual Runoff (in) of Total Drainage Area Treated: 0.34 inches

Annual Runoff Reduction (g/yr.): 934,799.76 gallons

(Runoff Reduction (in) / 12 x Treated Drainage Area (acre) x 325,851.433 = gal/yr.)

**Analysis using the US EPA Stormwater Calculator ver.1.1*

<http://www2.epa.gov/water-research/national-stormwater-calculator>

Project Description

1) **Introduction** (100 word maximum)

Provide a brief introduction to the organization that would be delivering the proposed GIG project.

Established in 1977 by a group of concerned residents and merchants, Kamm's Corners Development Corporation (KCDC) is a non-profit community development corporation with a mission to facilitate development and elevate the quality of life in Cleveland's West Park neighborhood. KCDC has a successful history of providing programming and services related to planning, code enforcement, special events, housing rehabilitation, economic and real estate development. Since 2005, KCDC has managed over 25 grants totaling more than \$4 million. Presently, KCDC owns and manages 2 commercial buildings and 3 residential properties for rehab/sale. KCDC has 6 staff supported by many volunteers.

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2) **Project Summary** (1000 word maximum)

Describe the GIG project. Include the following information:

- Objectives and Outcomes;
- Proposed design and installation;
- Drawings or figures of the site and GIG project; - *please see attached*
- How the SCM will function;
- Other relevant project details; and,
- Current photos of the GIG project site. - *please see attached*

If awarded, design documents must be submitted to the District for review, comment and approval prior to site work.

Built in the early 80s, this municipal lot has done a great service to the neighborhood by providing regional parking, sustaining economic development in the neighborhood core. However, it was built with the old adage - stormwater is clean water and therefore not a problem. We now know that all citizens are the recipients of this stormwater conveyance, posing drinking water and ecological concerns for our great lakes.

Understanding this correlation – urban impacts on drinking water - has been seeping into the regional culture, especially with the recent shutdown to the Toledo Water Treatment Facility. Our residents desire to live in a more sustainable neighborhood and region, yet it needs to be affordable and maintainable. We have made neighborhood sustainability strides through many projects--most notably the redevelopment of the Lorain Avenue streetscape--which incorporated green space and trees that absorb rain and carbon monoxide. Additional projects include participation in the City of Cleveland's residential rain barrel program and supporting the installation of bike lanes on neighborhood streets.

Further, KCDC provided programing for the highly successful Kamm's Corners Farmers Market (KCFM). The 23 weekly outdoor KCFM is held every Sunday from June through mid-October in this parking lot. In 2015, there were over 20,000 guests to the free, outdoor market, featuring farm fresh produce from 35 vendors all within a 50-mile radius of the parking lot. It features live music, cooking demonstrations with fresh local food, and visual artists and attracts people from all socio-economic levels. A market committee meets year round, and will be included in the design and utilization of these bioretention cells.

To remain relevant and vital as a community, we must identify and understand how to maintain and attract residents and businesses. KCDC has been successfully doing this the last 38 years through our pragmatic yet optimistic approach to development. These bioretention cells will further KCDC's sustainability mission, retain businesses through improved aesthetics and provide another programmatic component to the KCFM, yet will not place an unmaintainable burden to KCDC.

Bioretention cells will be planted with non-edible, perennial plants that have been historically used for crafts and household goods. That includes lavender/sage used for sashays, lamb's ear as bandages, sunflowers for animal food, milkweed for paper and Yarrow for dying clothes. These

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plants will be integrated into the public programming of the Farmer's Market.

To be a truly successful example of a cost effective, publicly acceptable and maintainable green infrastructure retrofit, the bioretention cells will need to take advantage of the existing grading, sewers and utilities. With the recent ruling for the NEORSD on stormwater fees, constituents will be looking for local examples of cost effective green infrastructure retrofits. This project will become the local example for large parking lots – especially where there is a need for no loss of parking spaces. The proposed design has one less parking space, however during detailed design, this number will be further studied.

One other cost effective design measure will be to place bioretention cells strategically through the lot, taking advantage of the existing slopes. Cells are located throughout the site, rather than re-sewering and re-grading the site into a centralized area. Stormwater will enter, fill up bioretention cells and exit out the other side when full. Larger storm events will overflow to existing catch basins.

Everything requires maintenance and KCDC understands that economic development and maintenance have a symbiotic relationship. Working with neighborhood stakeholders, KCDC helped establish a Business Improvement District (BID) for this area (see attached brochure). With assistance from KCDC, the BID will perform the necessary maintenance and upkeep for the district, including these bioretention cells.

The bioretention cells are preliminarily designed as per the ODNR R&LD Manual. However, as per the Ohio EPA NPDES Construction General Permit, post construction BMPs from other state manuals and TARP approved propriety/inventive BMPs can be used for post construction stormwater quality and quantity control for construction projects. Due to the size and complexity of this lot, it would be a wonderful opportunity to install at least one inventive BMP. Two similar types of BMPs that could be integrated into this design are: iron enhanced sand filter with underground storage (Minnesota DEQ) and high volume bioretention cells (filtera or focal point). These BMPs have a similar level of effort of maintenance, lifespan, water quality/quantity as bioretention. The proximity of these systems to a “standard” BMP design will provide the opportunity for true study of these alternative systems.

These alternatives are dependent upon infiltration rates of existing soils and potential study partners. We will perform an infiltration test on the project site as the first step of the project. Once infiltration rates are identified, we will work with the NEORSD to discuss and finalize potential alternatives, if any. We will provide a proposal with supporting information to the district with the potential alternatives, costs, life span, maintenance details, and stormwater reduction calculation comparisons. No alternatives will be implemented without approval of the District.

We will also work with finalizing potential partners for studying the science and success of these GI elements. We've communicated with the high schools Saint Joseph Academy and John Marshall's Bard Early College regarding potential school projects for their Science & Engineering programs. These GI elements could be a potential site for multiple studies, with many students over many years. If the project is funded, we will work to develop a series of potential scientific studies for students to perform.

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3) **Ability to Provide Long Term Maintenance** (400 word maximum)

Describe the plans for long-term maintenance, addressing ALL the following questions:

- Who owns the land where the GIG project will be located? Does the applicant have site control?
- What is the anticipated design life expectancy of the green infrastructure features for which GIG funding is requested?
- Who is responsible to provide on-going maintenance for the design life of the project and how will maintenance be ensured?
- Provide an anticipated list of routine maintenance tasks/activities, schedule, and estimated annual cost to ensure continued performance of the GIG project.

The property is owned by the City of Cleveland's Community Development Department and they are supportive of this project (see attached support letter). KCDC has site control and will maintain the BMPs. The site and KCDC are in good standing with the NEORS.

Understanding the critical link that maintenance plays with economic development, KCDC helped create a Business Improvement District (BID) for this area. Implementing in 2016, this BID footprint has 87 businesses on Lorain Avenue from Old Lorain Road to W. 165th Street. The businesses range in size from the Cleveland Clinic Fairview Hospital with approximately 3,600 employees to small "mom & pop" shops with a single employee. The BID was specifically created to maintain the investments that the City of Cleveland and KCDC packaged and completed for this "town center".

The BID/KCDC will collect approximately \$40,000 per year for a three year term with the ability to renew the BID. Please see the attached BID proposed budget and information on costs. As shown, many of the tasks identified for bioretention maintenance, are already listed in the proposed budget – litter & cleaning activities, plant material and maintenance. The bioretention maintenance will be incorporated into this BID budget. If the BID, dissolves, KCDC will assume costs of the maintenance directly.

Typical life span of bioretention is approximately 25 to 30 years depending strongly upon design and maintenance. These cells will be designed with belt and suspenders methodology. The cell will include clear accesses routes for maintenance of materials. It will include the ability for underground storage of stormwater to provide for deeper infiltration and irrigation of plants.

Anticipated routine maintenance will be approximately \$800 to \$1,500 per year and includes:

- Bioretention: pick up litter weekly. Remove weeds, dig out and replace mulch each year. Inspect bioretention outlet and inlet for clogging after each strong rainstorm (1-inch in 24 hours). Check each spring/fall for plant replacement and splitting. Each year test for draw down success – the bioretention will include a water table well. Once a year, 24 hours after the completion of a rain event equal to or larger than a 0.75-inch rain, open the cap, and place a dry wooden stick down the well. If the stick/rod is wet, this is an indication that there is still water within the bioretention soil and the cell should be investigated further for potential performance issues.

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- 4) **Visibility and Public Outreach:** (300 word maximum)
- What audiences will be exposed specifically to the green infrastructure components of this project (neighbors, students, community groups, general public)?
 - Describe how these audiences will interact with the GIG project and include methods of exposure, frequency, and education components.

This project will be integrated into one of the largest parking lots in the successful Kamm's Corners retail and entertainment district. In addition to employee parking, thousands of visitors utilize this lot to visit local businesses, farmers market and seasonal events. This includes visitors to Congresswoman Marcy Kaptur, whose regional office is located adjacent to the parking lot. Interpretive signage will be permanently installed to educate these visitors about the functionality of the beautiful landscape areas.

The Kamm's Corners neighborhood vibrates with residents who are passionate about supporting their community. We work with residents in carrying out multiple festivals through special events committees. We stay engaged with the community via church bulletins, social media, school flyers, a twice-monthly e-newsletter, and a quarterly magazine. Our events—The Hooley street festival, the KCFM, and Asphalt Cinema, etc.--attract over 62,000 participants annually.

We reach our audience via the Kamm's Corners Magazine, mailed quarterly to everyone in the community, with a print run of 12,000 with additional copies available at public places and online at our website at <http://www.kammscorners.com>. We publish an e-newsletter twice a month (1,200 subscribers), highlighting community news and events. We have over 1,892 followers on Facebook and 1,190 followers on Twitter. In addition, each local public and private school distributes flyers about our events for inclusion in every child's book bag, and events are publicized in church bulletins. We will include information about the project through all of these outlets.

Long-term, we will engage our local schools through seasonal articles about the bioretention cells – what's in bloom, what plants can be cultivated for use in crafts, how the local wildlife are using the cells, etc. Additionally, electronic fact sheets will be developed and published on our web site discussing the utilitarian uses for the plant material.

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5) **Tasks and Deliverables**

Submit a schedule of GIG project tasks and deliverables with start dates and end dates for the significant benchmarks with project completion date defined.

December 21, 2015 the District Grant Due. KCDC to email to the District;
December 2015 thru February 2016 District review of grant applications;

February 2016 Notice of grant approval
May 2016 contract between KCDC & the District;
May 2016 contract with EDG to perform survey & design;
May – July 2016..... Survey and design finalized;
August 2016 review of construction drawings and specifications the District and KCDC;
August-September 2016.....Permits procured;
September 2016 Issue CD's and project manual for Contractor Bidding;
September 2016 Construction contractor selected;
September 2016 Construction begins;
December 31, 2016 Construction Completion.

6) **Letters of Support**

- Applications must include one letter of support from the applicable councilperson.
- Applications must include a letter of support from each non-municipal project partner named in the application. Please note this applies to non-municipal partners only. Please do not include letters of support from various municipal departments unless specifically required.
- Applications proposing work on publically-owned property, including within the right-of-way, must include a letter of support from the applicable public office with control over the property. For the City of Cleveland, a GIG project in the right-of-way in the City of Cleveland must include a support letter from the Mayor's Office of Capital Projects.
- Do not include any letters of support beyond those specified above. The Sewer District does not want extraneous letters of support.

Please see the attached letters of support – including city councilman's support

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7) **Budget Summary** (400 words maximum)

The Budget Summary and Budget represent the green infrastructure components of the project exclusively. Include details on the provider for all in-kind services and/or materials including specific material cost and hourly rate. If there is a volunteer component, please identify the source of volunteers.

This project intends to be an example of a cost effective, aesthetically pleasing, retrofit to control stormwater in an urban commercial site. The potential whole project costs are estimated as \$0.27 per gallon of stormwater control. These costs per gallon will be updated throughout the project and at the end to identify the actual cost per gallon.

As the region looks to respond to the need for stormwater control, it will be important to illustrate successful, cost effective green infrastructure retrofits that provide documented economic development co-benefits. This project has the ability to provide that example for the District.

Kamm's Corners, a west side neighborhood of Cleveland, vibrates with residents who are passionate about supporting their community. Utilizing the KCDC's existing outlets for media and education will provide a long-term cost effective solution for education of stormwater, plant utilization and green infrastructure.

Please see the attached detailed cost estimate.

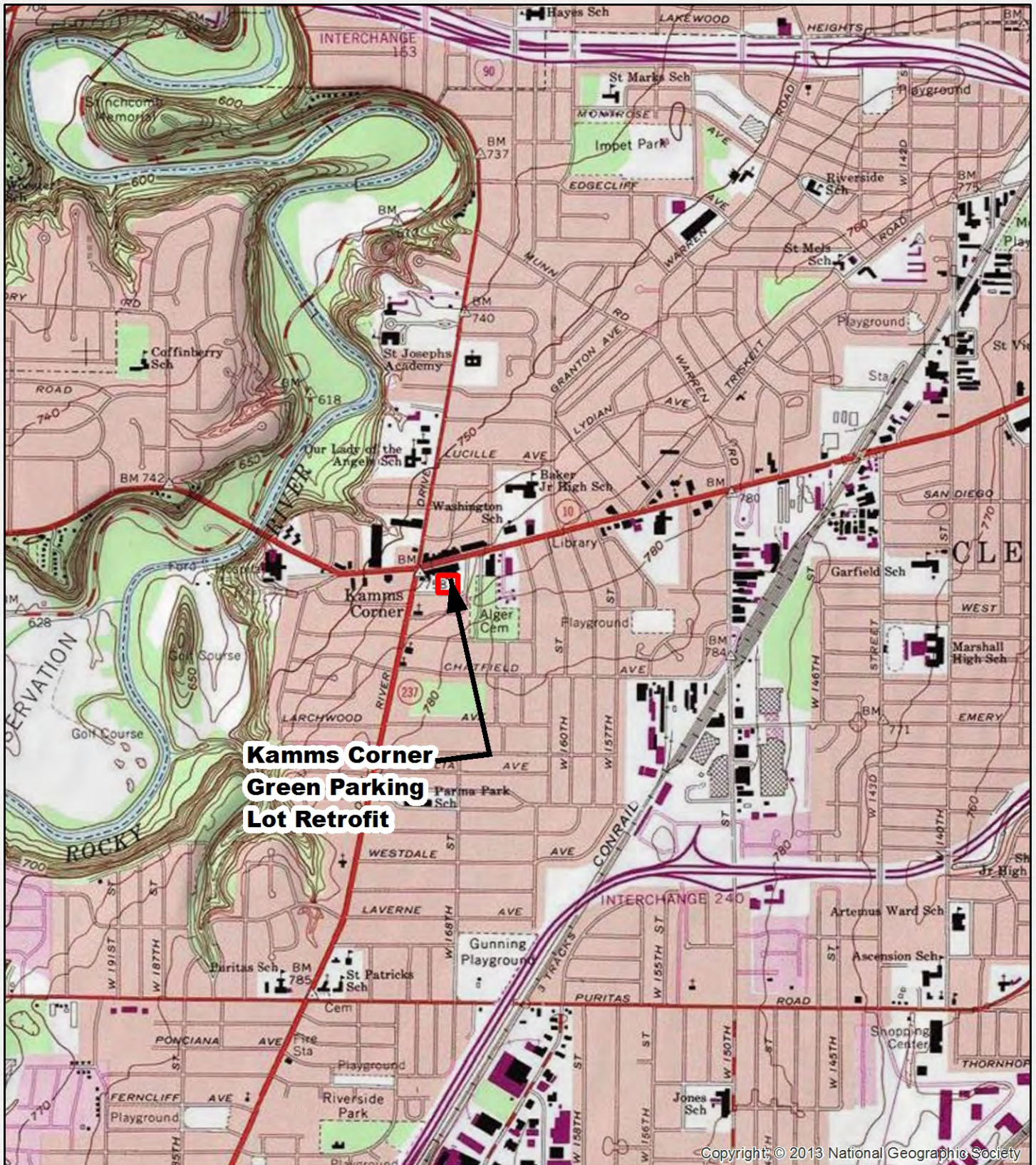
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If an engineer’s estimate is included with the application, indicate which line items are included in the GIG request.

Green Infrastructure Project Budget

GIG Project Income	Anticipate d (include	Committed as of 12/21/2015	Total	Line Item Description
Northeast Ohio Regional Sewer District	\$ 249,583.00		\$ 249,583.00	GI retrofit including improvements to flow water to the GI
Foundations				
Government Grants or Contracts				
Organizational Budget (i.e.: individual contributions, fundraising events/products, membership/fees/earned		KCDC has asked the City of Cleveland for matching funds, but is awaiting notice		
In-kind Support				
Other				
TOTAL	\$249,583.00		\$249,583.00	
GIG Project Expenses	Northea st Ohio Regiona	Other Funding	Total	Line Item Description
Professional Services	\$35,000		\$35,000	Design, Geotech & survey
Labor				
Materials				
Equipment Rental				
Plants (6 trees)	\$7,639.00		\$7,639.00	Contractor installed plant materials
Other: Construction	\$206,944.00		\$206,944.00	Construction of project
TOTAL	\$249,583.00		\$249,583.00	



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Key Map

Cuyahoga County, Ohio

**KAMMS CORNER
GREEN PARKING LOT RETROFIT**
Cleveland, Ohio

Project Location Map

2,000
Feet



12.1.2015

NEROSD GIG Grant Application 2016

EXISTING CONDITIONS PPN # 025-25-031

58,728 SF ASPHALT LOT
2,050 SF GRASS
2,704 SF LANDSCAPE



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**PUBLIC PARKING LOT RETROFIT
KAMM'S CORNER
EXISTING CONDITIONS - 127 SPACES**

Environmental Design Group
450 Grant Street Phone 330.375.1390
Akron, OH 44311 Fax 330.375.1590
www.enydesigngroup.com





PARKS GROUP
Akron, Ohio

Date: 12/11/2015

Project Title: **Kamms Corner - Gray Option**

Project No.

Description:
Conceptual Class 5
design qty. estimate

Prepared by:

Approved By:

K. Holmok

PHASE DESCRIPTION: CONCEPTUAL PLANS (CLASS 5)

Item #	NO.	UNIT	UNIT	SUBTOTAL
	UNITS	MEAS.	COSTS	COST
201 & 624	1	LS	\$ 800.00	\$800.00
253	6456	SY	\$13.50	\$87,156.00
641	1	LS	\$1,500.00	\$1,500.00
SPEC	4	EA	\$200.00	\$800.00
				\$4,512.80
	1	LS	\$1,421.53	\$1,421.53
	1	LS	\$5,000.00	\$5,000.00
PROJECT COSTS SUBTOTAL				\$101,190.33

The above Opinion of Probable Project Costs is based on available information and the Landscape Architect's experience and qualifications. This opinion represents the Landscape Architect's best judgment based on experience with the construction of similar projects. The Landscape Architect has no control over the cost of labor, materials, equipment or services furnished by others or over competitive bidding or market conditions and, therefore, does not guarantee that this project cost estimate will approximate the actual project costs.

ASSUMPTIONS

Cost estimates and ranges are developed to the Association for the Advancement of Cost Consulting International (AACE) Class 5 estimate level construction cost estimate.

- a. Construction cost estimates utilize ODOT 2014 prices, and local public bid prices for similar work. Unit costs include direct, indirect costs, contractor overhead and profit.
- b. Assumed Soil Conditions: Unknown
- c. No bedrock conflicts
- d. No existing utility conflicts, repairs or upgrades are known.
- e. Maintenance costs are not included
- f. The cost estimate does not include fire and all risk insurance.
- g. The listed 10% construction cost contingency was based upon these assumptions and risks.

Asphalt Pvement Overlay & Repair - grind existing asphalt to allow for an average 2" overlay of new asphalt pavement. Apply tack coat and install scratch intermediate course of 448 asphalt then incinstall 2" 404 asphalt surface course material.

LANDSCAPE ARCHITECT:

SEAL

Katherine Gluntz Holmok

Signature
Katherine Gluntz Holmok, ASLA



12/18/2015

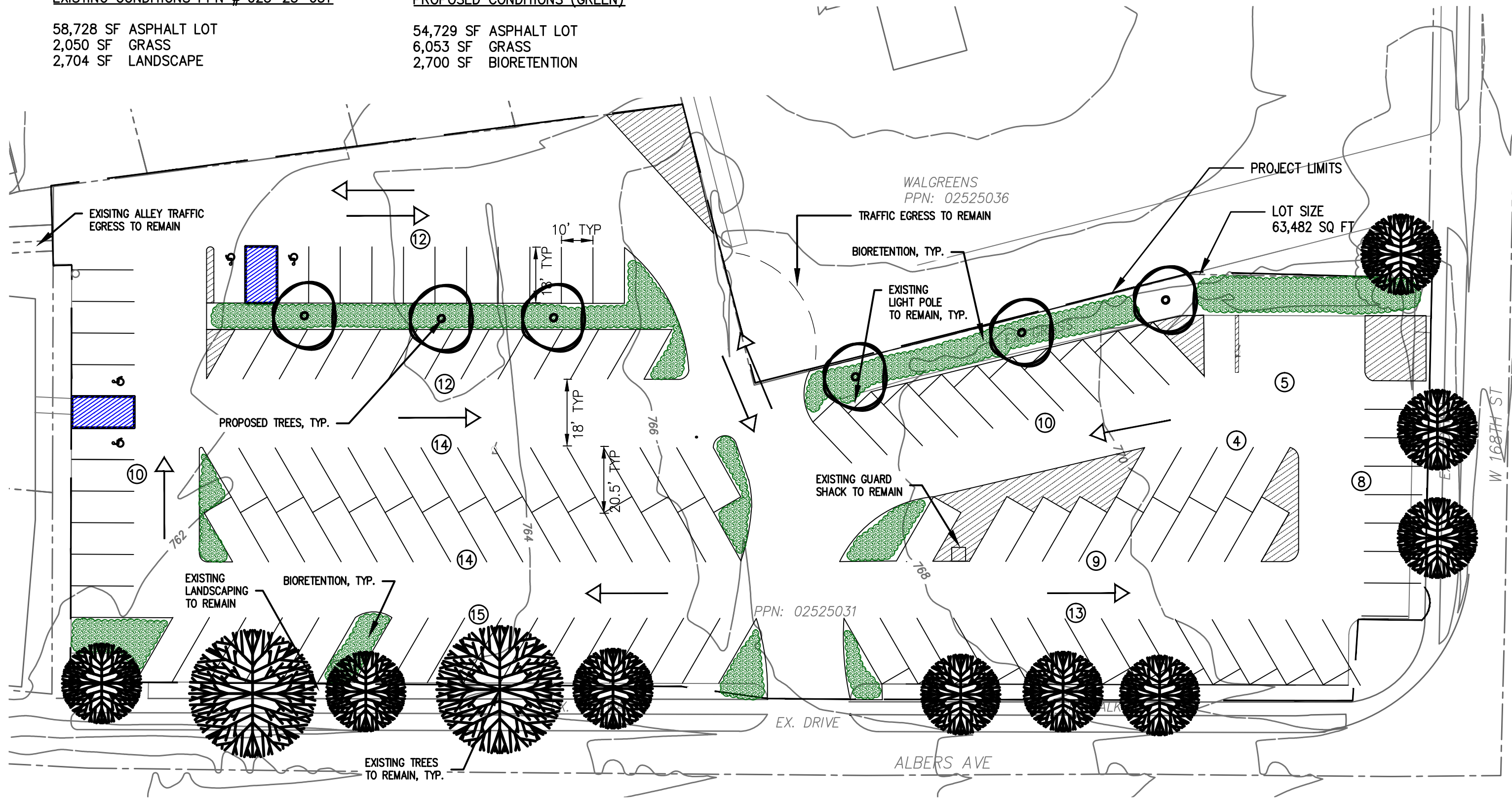
Date

EXISTING CONDITIONS PPN # 025-25-031

PROPOSED CONDITIONS (GREEN)

58,728 SF ASPHALT LOT
2,050 SF GRASS
2,704 SF LANDSCAPE

54,729 SF ASPHALT LOT
6,053 SF GRASS
2,700 SF BIORETENTION



**PUBLIC PARKING LOT RETROFIT
KAMM'S CORNER
GREEN OPTION - 126 SPACES**

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PARKS GROUP
Akron, Ohio

Date: 12/11/2015

Project Title: **Kamms Corner - Green Option**

Project No.

Description:
Conceptual Class 5
design qty. estimate

Prepared by:

Approved By:

K. Holmok

NO.	UNIT	UNIT	SUBTOTAL
UNITS	MEAS.	COSTS	COST

PHASE DESCRIPTION: CONCEPTUAL PLANS (CLASS 5)

Item #					
201 & 624	Clearing & grubbing/Mobilization/demo	1	LS	\$ 10,000.00	\$10,000.00
203	Excavation and Embankment (including all excavation hauled)	447	CY	\$12.00	\$5,364.00
253	Asphalt Pavement Overlay & Repair	6,080	SY	\$13.50	\$82,080.00
609	6" x 18 " Concrete Curbing	400	LF	\$22.00	\$8,800.00
641	Parking Lot Markings	1	LS	\$3,000.00	\$3,000.00
SPEC	ADA Signage & Handicap Marker	4	EA	\$200.00	\$800.00
653	Topsoil Furnished and Placed	57	CY	\$50.00	\$2,850.00
653	Hardwood mulch (outside bioretention areas)	14	CY	\$80.00	\$1,120.00
SPEC	Storm sewer	1	LS	\$8,050.00	\$8,050.00
SPEC	Concrete Curb Cuts (bioretention inlets)	15	LS	\$65.00	\$975.00
SPEC	Stormwater PPP	1	LS	\$600.00	\$600.00
SPEC	Bioretention (including soil, underdrainage, overflow, mulch)	2,700	SF	\$20.00	\$54,000.00
SPEC	Bioretention overflow w/grate	2	EA	\$1,200.00	\$2,400.00
SPEC	Interpretive Sign	1	EA	\$800.00	\$800.00
SPEC	Ornamental Tree	6	EA	\$200.00	\$1,200.00
SPEC	Shrubs	25	EA	\$40.00	\$1,000.00
SPEC	Perennials/Grasses	447	EA	\$12.00	\$5,364.00
SPEC	Lawn repair	50	SY	\$1.50	\$75.00
	Contingency (10%)				\$18,848.00
	Permits (\$15/\$1,000)	1	LS	\$3,109.89	\$3,110.00
	Non-construction Allowance (2%)	1	LS	\$4,146.52	\$4,147.00
	Design, Survey, Geotech, CA & signage design		LS	\$35,000.00	\$35,000.00
PROJECT COSTS SUBTOTAL					\$249,583.00

The above Opinion of Probable Project Costs is based on available information and the Landscape Architect's experience and qualifications. This opinion represents the Landscape Architect's best judgment based on experience with the construction of similar projects. The Landscape Architect has no control over the cost of labor, materials, equipment or services furnished by others or over competitive bidding or market conditions and, therefore, does not guarantee that this project cost estimate will approximate the actual project costs.

ASSUMPTIONS

- Cost estimates and ranges are developed to the Association for the Advancement of Cost Consulting International (AACE) Class 5 estimate level construction cost estimate.
- Construction cost estimates utilize ODOT 2014 prices, and local public bid prices for similar work. Unit costs include direct, indirect costs, contractor overhead and profit.
 - Excavation and Haul: It is assumed that soil is clean fill. Phase I/II screening would have to occur on any non-roadway property prior to purchase/project.
 - Assumed Soil Conditions: Unknown
 - No bedrock conflicts
 - No existing utility conflicts, repairs or upgrades are known.
 - Maintenance costs are not included
 - The cost estimate does not include fire and all risk insurance.
 - The listed 20% construction cost contingency was based upon these assumptions and risks.
 - Non-Construction Costs (Permitting, environmental, security, etc.) is unknown and an allowance of 2% of construction costs is included.
 - Relocation of light poles are assumed to be costs incurred by CPP or City of Cleveland.
- Asphalt Pvement Overlay & Repair - grind existing asphalt to allow for an average 2" overlay of new asphalt pavement. Apply tack coat and install scratch intermediate course of 448 asphalt then incstall 2" 404 asphalt surface course material.

LANDSCAPE ARCHITECT:

SEAL

Katherine Gluntz Holmok

Signature
Katherine Gluntz Holmok, ASLA



12/18/2015

Date

BIORETENTION (RAINGARDEN) CALCULATIONS USING OHIO EPA APPROVED METHODS (FROM CONSTRUCTION PERMIT OHC000004)

Enter data in shaded cells only, other cells will be automatically calculated **ODNR CALCULTAOR**

Date: 12/18/2015

Project Name: Kamms Corner Public Parking Lot Retrofit

Project No.:

Type Of Project: Redevelopment

Location of Device: **ALL BIORETENTION**

WQv Rainfall (P)
(in)
0.75

Upstream Drainage Area (A) 63482.00 sq.ft. 1.46 acres
 Proposed Impervious Area 54729.00 sq.ft. 1.26 acres
 Proposed Pervious Area 8753.00
 Percent Impervious: 86%

1) Identify Coefficient			
A) if proposed impervious area is not known, use Ohio EPA weighted runoff Coefficient Calculation			
Ohio EPA Weighted Runoff Coefficient Calculation From Construction Permit (OHC000004)(Expires 4/20/2018):			
Land use	Project Drainage Area (acres)*	% Total Drainage Area	C Value Per Land Use Area
Industrial & Commercial	54729.00	0.86	0.80
High Density Residential (>8 dwellings/ac)	0	0.00	0.00
Medium Density Residential (4-8 dwellings/ac)	0	0.00	0.00
Low Density Residential (<4 dwellings/ac)	0	0.00	0.00
Open space and Recreational Areas	8753.00	0.14	0.20
Total Acres:	63482	Weighted C:	0.72
B) if proposed impervious area is known, use calculated coefficient			
Planned Site Impervious where $C=0.858i^3-0.78i^2+0.774i+0.04$ 0.67732			
i = percent impervious			
0.67732 select C Value			

Table 1 - OEPA Runoff Coefficients Based upon Type of Land Use	
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/ac)	0.5
Medium Density Residential (4-8 dwellings/ac)	0.4
Low Density Residential (<4 dwellings/ac)	0.3
Open space and Recreational Areas	0.2

* This Total Area must match the Upstream Drainage Area

2) Required Filter Bed Size of the Bioretention (Equation from: ONDR, 2014. "Rainwater and Land Development"):			
Y/N			
no	If impervious surface <25% WQv/1 Ft Max (sq.ft.)	2687.371376	
yes	If impervious surface >= 25% 5% of Imp Area (sq.ft)	2736.45	Required Filter Bed Size 2700 sq.ft. minimum Filter Bed Have the ability to provide 3850sf

3) Redevelopment Project?			
	Yes	x	If yes, then 20% of WQv
	No		If no, then 100% of WQv
*** But, project is grant funded, so use 100% WQv			

4) Required WQv (Equation from: ONDR, 2014. "Rainwater and Land Development"):	
$WQv=C^*P^*A/12$	2,687.371 cu.ft.
where:	
WQv = water quality volume (cu.ft.f)	
C= Weighted C or planned site imp	
Selected C	0.68

5) Proposed Bioretention Design:	
Proposed Device Area Size (sq.ft.)	2700 sq.ft.
Device Storage Depth (Above Ground)(feet)	1 ft
Hardwood Mulch (inches)	3 in
Soil depth (feet) 2 to 4 feet	2 ft
Concrete Sand depth (feet) - 3 inches	0.25 ft
Pea Gravel depth (feet) - 3 inches	0.25 ft
Stone depth #57 washed (feet) - 10 to 12 inches	0.8333333 ft
Designed Storage Volume (above filter bed)	2700 cu.ft.
Designed Storage Volume (within bioretention area profile) = volume of soil (0.15), concrete sand/pea gravel (0.25) & stone (0.3)	1822.5 cu.ft.

6) Check Designed Bioretention meets drain time of WQv:			
Designed Storage Volume (cf) (bioretention)	4,523	cu.ft.	
	1.68	ratio of deisgned storage volume to necessary WQv	
k = coefficient of permeability of bioretention (ft/day)(note: settled soil media (0.5in/hr) 1 ft/day)	1	ft/day	
kpp= coefficient of bioretention (ft/day)	1	ft/day	1 ft/day
ts = design bioretention filter bed drain time (days) (note: 1 day (24 hrs) is required by OEPA)	1	days	
Designed Volume Infiltrated within 24 -hours (not including existing subsurface)	64800	cuft/day for all areas designed	
	YES	does design draw down in 24 hours or less?	
ke = coefficient of permeability of existing subsoil media (ft/day)	8	ft/day	Unknown (using WSS)

National Stormwater Calculator Report

Site Description

Kamms

Parameter	Current Scenario	Baseline Scenario
Site Area (acres)	1.48	1.48
Hydrologic Soil Group	A	A
Hydraulic Conductivity (in/hr)	4	4
Surface Slope (%)	5	5
Precip. Data Source	CLEVELAND WSFO AP	CLEVELAND WSFO AP
Evap. Data Source	CLEVELAND WSFO AP	CLEVELAND WSFO AP
Climate Change Scenario	None	None
% Forest	0	0
% Meadow	0	0
% Lawn	15	7.5
% Desert	0	0
% Impervious	85	92.5
Years Analyzed	20	20
Ignore Consecutive Wet Days	False	False
Wet Day Threshold (inches)	0.10	0.10

LID Control	Current Scenario	Baseline Scenario
Disconnection	0	0
Rain Harvesting	0	0
Rain Gardens	100 / 5	0
Green Roofs	0	0
Street Planters	0	0
Infiltration Basins	0	0
Porous Pavement	0	0

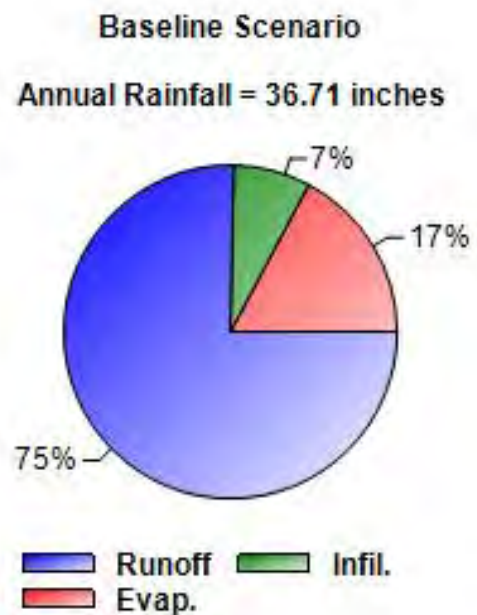
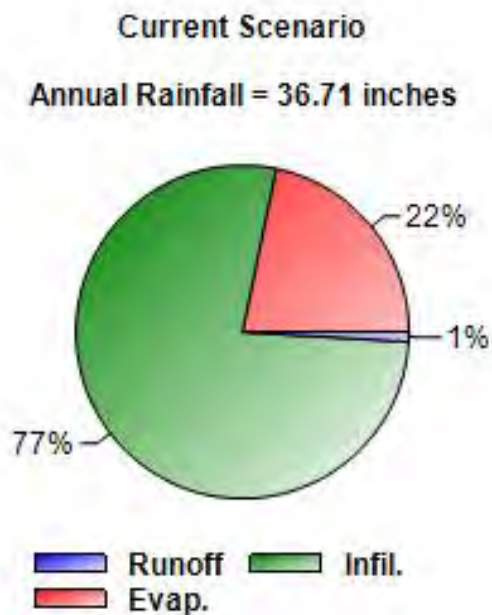
% of impervious area treated / % of treated area used for LID

National Stormwater Calculator Report

Summary Results

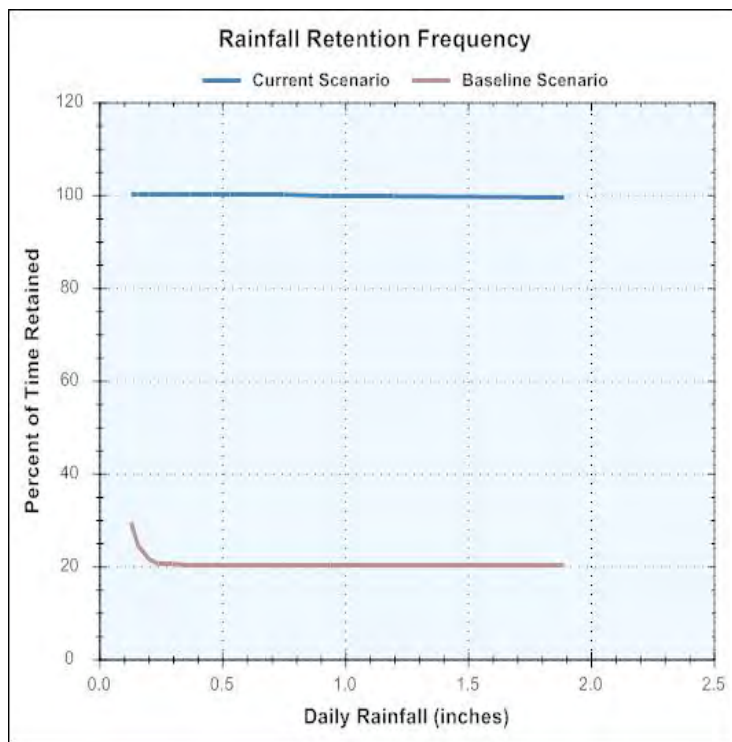
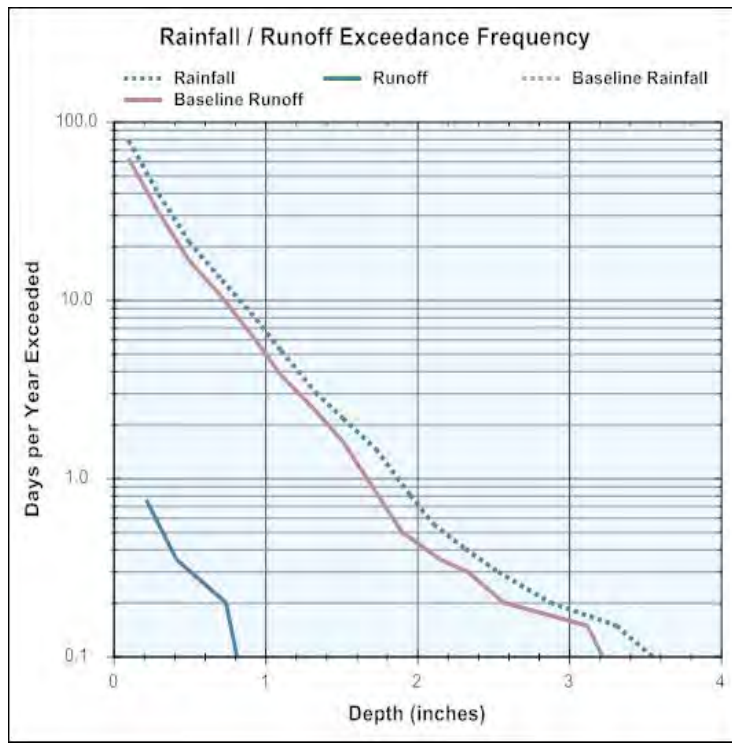
Kamms

Statistic	Current Scenario	Baseline Scenario
Average Annual Rainfall (inches)	36.71	36.71
Average Annual Runoff (inches)	0.34	27.74
Days per Year With Rainfall	78.05	78.05
Days per Year with Runoff	0.75	62.31
Percent of Wet Days Retained	99.04	20.17
Smallest Rainfall w/ Runoff (inches)	1.00	0.10
Largest Rainfall w/o Runoff (inches)	2.57	0.22
Max. Rainfall Retained (inches)	2.80	0.53



National Stormwater Calculator Report

Kamms



National Stormwater Calculator Report

Kamms

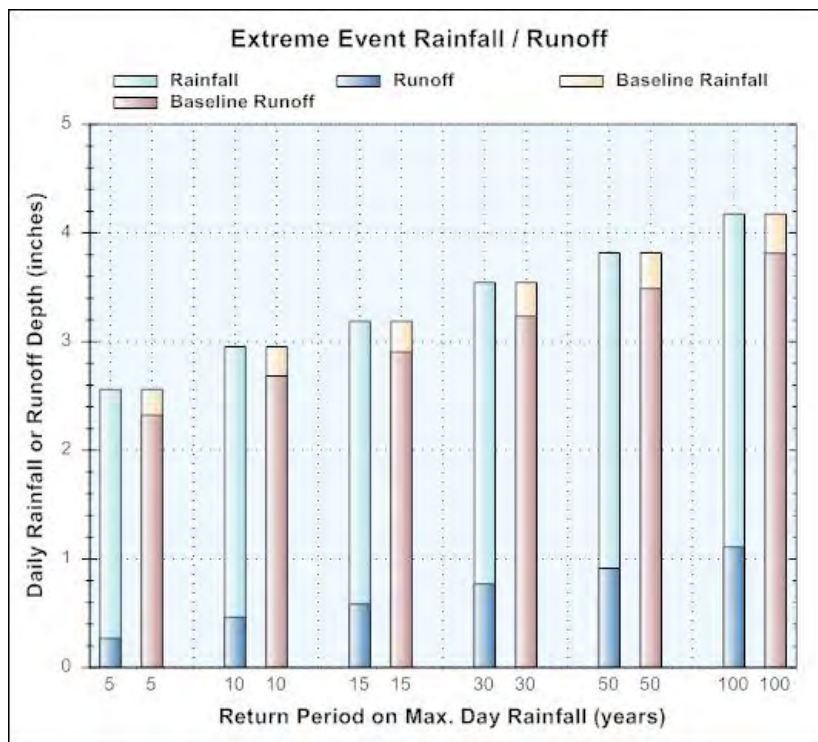
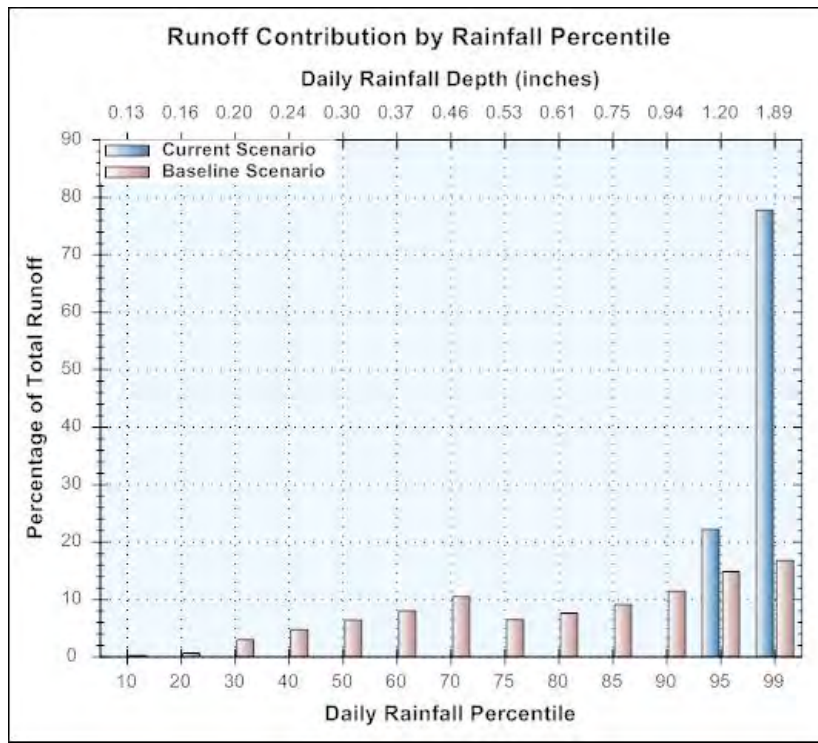


PHOTO LOG

Kamm's Corner Green Parking Lot Retrofit

Project No.

Grant Name:

Northeast Ohio Regional Sewer District
2016 GIG

Site Location: PPN #

16906 Albers Avenue, Cleveland, Ohio

Photo No.

1

Date:

4/1/2015

The existing public parking lot is behind the very popular eating/drinking establishments along Lorain Avenue. These include P.J. McIntyre's Irish Pub, West Park Station, and Back Stage Bar. Additionally, Congresswoman Marcy Kaptur's local office utilizes this parking lot.



Photo No.

2

Date:

9/5/2014

During removal of a heating oil tank, deep excavation on site illustrated the inclusion of potentially high infiltrating soils. This is typical of Lorain Avenue properties.



PHOTO LOG

Kamm's Corner Green Parking Lot Retrofit

Project No.

Grant Name:

Northeast Ohio Regional Sewer District
2016 GIG

Site Location: PPN #

16906 Albers Avenue, Cleveland, Ohio

Photo No.

3

Date:

2015

The 23 weekly outdoor Kamm's Corners Farmers Markets feature live music, culinary art demos, and a visual artist, every Sunday from 10 a.m. to 1 p.m. from June through mid-October in the municipal parking lot at 16906 Albers Avenue. (20,000 guests/2015)



Photo No.

4

Date:

5/14/2015

The Kamm's Corners Summer Arts & Entertainment series begins with The Hooley on Kamm's Corners, a street festival on Lorain Avenue at Rocky River Drive, which includes live music and a visual arts exhibition. In 2015, it took place on Saturday, May 14, from noon until 8 p.m. (32,000 guests/2015). This parking lot provides programming space and public parking for this regional event.



PHOTO LOG	Kamm's Corner Green Parking Lot Retrofit	Project No.
Grant Name: Northeast Ohio Regional Sewer District 2016 GIG	Site Location: PPN # 16906 Albers Avenue, Cleveland, Ohio	

Photo No. 5	Date: 12/10/2015
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This parking lot represent over an acre of impervious surface. The site currently is a blank slate for green infrastructure retrofit. Bioretention cells would be designed to take advantage of the no-parking areas, existing grading and utilities.



Photo No. 6	Date: 10/22/2015
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The site has existing "lawn areas" than can be transformed into bioretention swales that lead water to larger bioretention areas.



PHOTO LOG	Kamm's Corner Green Parking Lot Retrofit	Project No.
Grant Name: Northeast Ohio Regional Sewer District 2016 GIG	Site Location: PPN # 16906 Albers Avenue, Cleveland, Ohio	

Photo No. 7	Date: 12/10/2015
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The site has existing "lawn areas" than can be transformed into bioretention swales that lead water to larger bioretention areas.

New curbs would be installed and the existing jersey barriers reused to divert traffic from entering the green infrastructure.



Kamm's Corners



Business Improvement District

Imagine "Downtown" Kamm's Corners bustling with pedestrians, free of litter, with clean sidewalks and planters filled with colorful flowers in the summer, with lovely seasonal and holiday decorations and lighting, with sidewalks free of snow and ice during the winter. That's the attraction of a Business Improvement District.

After the City of Cleveland's \$12 million investment in the Streetscape, it will largely fall to us to see that it remains well maintained and cared for. A BID is the perfect method to accomplish this.

What is a Business Improvement District (BID)?

A Business Improvement District, or BID, is a mechanism allowed through the Ohio Revised Code whereby contiguous property owners agree to assess themselves a set amount on a yearly schedule using a formula based primarily on the front footage of their property for the purpose of improving the appearance and character of the area. The funds may only be used in the established BID area to pay for extra services as decided by the property owners.

What services can be offered by the BID?

Services must be for the public good and may include litter and graffiti removal, power-washing, landscaping, streetscape improvements and decorations, snow removal, marketing, economic development, and security activities. The services are chosen by the property owners themselves, through a board of trustees.

How is a BID set up and/or dissolved?

To set up a BID, owners representing 60% of the front footage of the proposed district must agree to this through a written petition process. Government and church properties are exempt. The initial BID is proposed for 3 years and can then be renewed or dissolved by a vote of the property owners.

Who operates the BID?

Once a BID is established, a non-profit board of at least five members is created to oversee the BID. The BID Board

of Trustees will establish policies and procedures, as well as the budget and carryout the BID activities, either by hiring personnel or contracting for services. The BID Board of Trustees must have one person appointed by the Mayor and one from Cleveland City Council with the remaining board members comprised of BID property owners.

Which communities have BIDs?

There are many communities with BIDs and/or Special Improvement Districts (SIDs) throughout Ohio. In the Cleveland area, BIDs are operating in downtown Cleveland, Detroit Shoreway, Ohio City, Cedar Fairmount, and Coventry. Other communities around the state include, Akron, Bowling Green, Canton, Cincinnati, Columbus, Hamilton, Lancaster, Newark, and Toledo. More are being proposed all the time.

What are the proposed boundaries of the Kamm's Corners BID?

Reference the map on the following page. Essentially, the proposed boundary comprises the area that is commonly considered "downtown" Kamm's Corners.

What are the proposed services of the Kamm's Corners BID?

Activities proposed for the Kamm's Corners BID include litter and graffiti control, landscaping and planter maintenance in warmer months, snow and ice removal during the colder seasons, district lighting and decorations, security, and coordinated marketing efforts to

promote "downtown" Kamm's Corners and the neighborhood at large.

Why is a BID needed, and why now?

The Kamm's Corners Streetscape Improvement project was completed with much fanfare in 2010. As with many large public investments, once things are "fixed," attention turns to other pressing projects. The day-to-day maintenance of the improvement is often an after thought. A BID can help keep the improvements maintained and "fresh."

Additionally, "quality of life" services such as litter control, snow removal, and clean sidewalks—normal expectations for any quality retail district—are key.

Then, there are services that enhance the "experience" within the district, for example holiday lighting, decorative banners, and planters filled with flowers that bring the street to life and attract quality customers.

And finally, a marketing strategy that brings customers to the neighborhood in the first place. Once they are here, and the rest of the plan is on display, they become repeat visitors.

For a relatively minor investment, the BID can provide a comprehensive strategy to improve business for everybody.

OK, I understand the need and the benefits, but what is the bottom line for me?

See page 4 for your specific investment amount.



PROPOSED BUDGET



The following represents a proposed budget for the Business Improvement District. While the overall amount raised will remain \$40,000 for each of the first 3 years, the budget can be revised as often as necessary within the allowable uses of the funds. The budget will be set and guided by the BID's board of trustees.

Litter and Cleaning Activities \$ 3,000

Regular patrol of district to collect litter
Empty refuse containers if necessary
Remove graffiti as needed
Powerwash sidewalks as needed

Planter Materials & Maintenance \$ 3,700

Add annuals, weed & maintain planters
and irrigation system

Snow Removal \$ 6,500

Remove snow from sidewalks and
aprons in the right of way

Water & Electricity \$ 1,000

Planter irrigation, holiday lighting power

Equipment Maintenance & Storage \$ 500

Regular maintenance and seasonal
storage of equipment and supplies

Banners and Seasonal Decorations \$ 5,000

Street banner install/remove (labor)
Holiday lighting install/remove (labor)

**District Marketing and Business
Attraction & Retention** \$ 7,200

Advertising and promotion, business
attraction strategies

Security Activities & Services \$ 12,000

**Administrative, Overhead, Organizational,
& Miscellaneous** \$ 1,100

Total Annual Budget \$40,000



OK, I understand the need and the benefits, but what is the bottom line for me?

To continue the renaissance of "Downtown" Kamm's Corners, a comprehensive approach must be adopted. A Business Improvement District provides the perfect mechanism for property owners to work together towards advancement of the district and the businesses within it. The larger neighborhood also benefits through increased property values, neighborhood cohesiveness, and pride.

As noted earlier, the assessment formula is based principally on the frontage of your property, although there is also a component of the value of the assessed property.

Your property, which we are referring to as:



When applied to the assessment formula, requires an annual contribution of:



These funds, when combined with the remainder of the assessments, plus an annual donation of \$10,000 funded by Kamm's Corners Development Corporation (in addition to their actual assessment), will produce an annual fund of \$40,000 for each of the 3 years of the term. At the end of the term, the BID will need to be renewed by the property owners, or it will expire.

Your support of this effort will be greatly appreciated.





City of Cleveland

Frank G. Jackson, Mayor

Department of Community Development

Daryl P. Rush, Director
601 Lakeside Avenue, Room 320
Cleveland, Ohio 44114-1070
216/664-4000
www.cleveland-oh.gov

December 17, 2015

Linda Mayer, Environmental Education Specialist
Watershed Programs Department
Northeast Ohio Regional Sewer District
3900 Euclid Avenue
Cleveland, Ohio 44115

Ms. Mayer:

The City of Cleveland Department of Community Development supports the Kamms Corners Community Development Corporation submittal of the 2016 NEORS D Green Infrastructure Grant for the Combined Sewer Area application to fund the installation of green infrastructure retrofits to an existing off-street neighborhood parking lot on Albers Avenue and W. 168th Street behind the successful businesses on Lorain Avenue.

This parking lot will continue to incorporate and raise awareness of green infrastructure techniques in key places in Cleveland, provides additional greenspace to this successful urban neighborhood, and provide a needed solution to stormwater issues that supports economic development within the City.

This highly visible project provides a unique opportunity for local residents, businesses and visitors to the Kamms Corners neighborhood to learn about sustainability and green infrastructure through the incorporation of educational interpretive signage.

In conclusion, the Kamms Corners Community Development Corporation's application would be a great asset and a model for the continued effort incorporating sustainability and economic development throughout the City of Cleveland.

Sincerely,

Michael F. Cosgrove
Acting Director, Department of Community Development



CITY OF CLEVELAND
Office of the Council

www.clevelandcitycouncil.org

Martin J. Keane COUNCIL MEMBER, WARD 17

COMMITTEES: Transportation - Chair
Finance • Safety • Utilities • Operations • Rules

December 16, 2015

Mr. Ben Campbell
Director of Commercial and Industrial Development
Kamm's Corners Development Corporation
17407 Lorain Avenue, Cleveland, OH 44111

RE: NEORSD 2016 Green Infrastructure Grant

Dear Ben:

I am pleased to provide this letter of support for the Kamm's Corners Public Lot Retrofit.


As you are keenly aware, this parking lot supports dozens of businesses along Lorain Avenue, and serves as the main parking lot for visitors to the Kamm's Corners Retail and Entertainment District, as well as for the employees that serve those businesses. It is a very important component of the success of our commercial district.

We both know that the parking lot is in poor condition, and that the catch basins overflow with some regularity. We also know that the City of Cleveland has no capacity to repave it in the short to mid-term. An alternative source of funding is our only hope.

As an advocate for sustainability, this grant can bring us the optimal solution, providing the dollars to repave and improve the lot, while also virtually eliminating the runoff with bioretention methodology.

In conclusion, I am an enthusiastic supporter of this grant application, and look forward to hearing of an award to this very important project.

Best Regards,


Martin J. Keane

Kamm's Area Special Improvement District Corporation

17407 Lorain Avenue, Suite 200
Cleveland, OH 44111



December 14, 2015

via email

Mr. Ben Campbell
Director of Commercial & Industrial Development
Kamm's Corners Development Corporation
Cleveland, OH 44111

RE: NEORS Green Infrastructure Grant

Dear Ben:

The Kamm's Corners Special Improvement District is just on the cusp of receiving the first assessments to fund the operations of the district. As you know, components of the budget include money for the upkeep of landscaping throughout the district.

I am glad to hear of the possible grant funding of bioretention facilities and the redesign and re-paving of the public parking lot. It has been in poor---some would say dangerous---condition for a long time, and business owners and visitors alike continue to complain about it. It certainly shines a bad light on an otherwise energized neighborhood.

Understanding that ongoing maintenance of the bioretention elements is critical to their successful operation, we pledge to work in tandem with Kamm's Corners Development to bring resources, both money and labor, to the project to assure that it continues to operate at its highest efficiency.

This project adds to our continuing efforts, including recycling bins, bicycle facilities, tree planting, LED lighting, etc., to be the most sustainable neighborhood we can be.

You have our full support for this application, and we pledge to be a part of its successful implementation.

Sincerely yours,

Jason Salupo
Director

